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THE IMAGE OF QUALITY

USER MANUAL

ST-PTZ-KB

PTZ Keyboard Controller

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PACKAGE CONTENTS

This package contains:

One ST-PTZ-KB keyboard controller
One 5-pin Isobar plug
One 12VDC 2A power supply
One user manual

PRODUCT DESCRIPTION

The ST-PTZ-KB is a professional grade pan, tilt, zoom (PTZ) controller for up to 255 PTZ-enabled CCTV cameras and other devices. The unit uses RS-485 communications, includes an LCD display and a 3-axis joystick. Single key protocol and baud rate retrieval of a current control address is an innovative feature.

Important Note

PTZ controllers are designed to perform a wide variety of PTZ camera control functions. However, the utility of any PTZ controller is highly dependant upon the particular PTZ camera to be controlled as each camera has not only its own functions but specific methods of how those native functions are accessed and managed. Further, a particular PTZ controller's terminology may differ from that used by a particular PTZ camera. Therefore, it will be necessary for the installer and/or user to consult BOTH the PTZ controller and PTZ camera's user manuals to ensure proper set-up, configuration and application.

SPECIFICATIONS

ST-PTZ-KB

Specifications (Typical)

1. Communications Protocol	RS-485 Half-Duplex
2. Communications Distance	Up to 3900 feet
3. Baud Rate	1200, 2400, 4800, 9600, and 19200 Bits/S
4. Interface	5 pin Pressure Line Terminal
5. Operating Temperature	14°F - 131°F
6. Relative Humidity	<90%
7. Power Supply	12VDC 2A
8. Dimensions	12"x5.8"x3.2"
9. Weight	1.5 lb.

INSTALLATION AND OPERATION

1. UNPACKING and HANDLING

Each unit is shipped assembled and factory tested.

Ensure that all accessories are removed from the container before discarding packing material

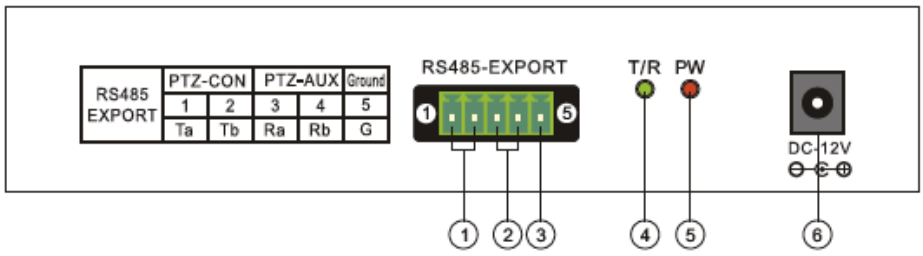
2. MECHANICAL INSPECTION

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no connectors are broken, damaged, or loose. If equipment appears to be damaged or defective please contact your distributor or Securitytronix at 1-610-429-1511 for assistance.

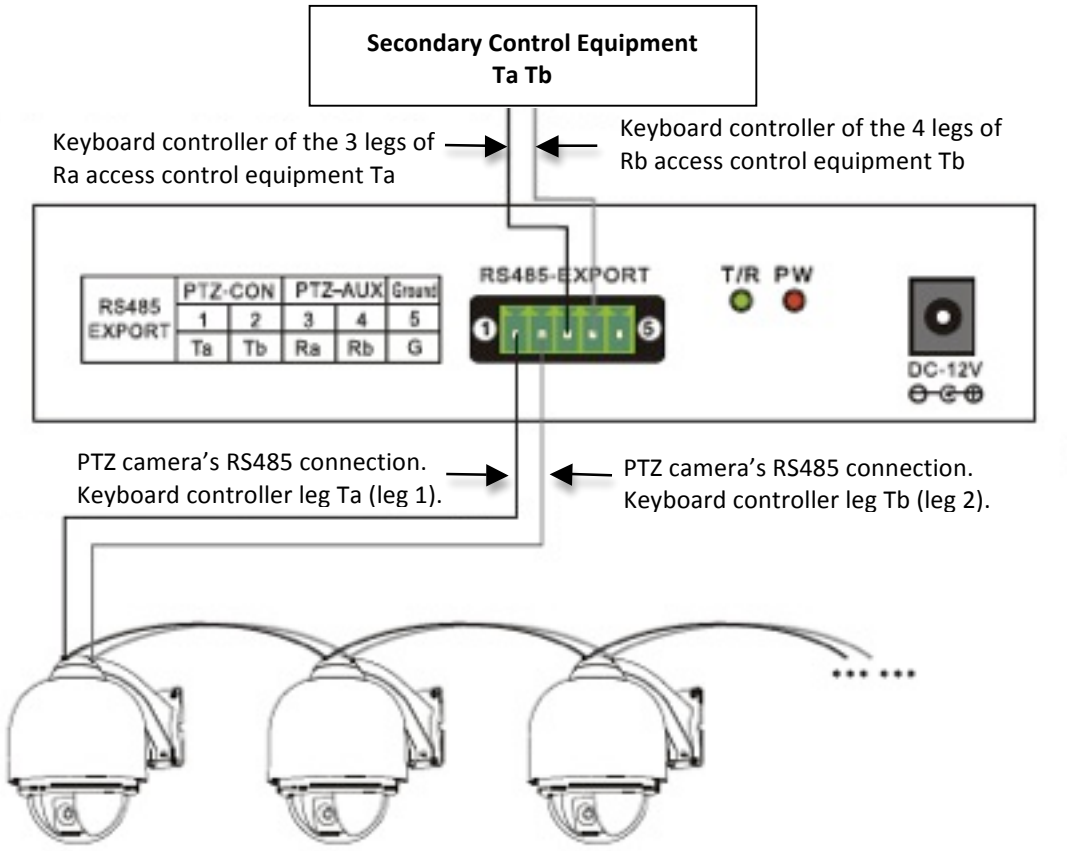
3. SPECIAL ATTENTION

a. The installer must comply with electrical safety standards. There must be sufficient space between the ST-PTZ-KB's communication and power lines and camera's and DVR's power supplies and video lines and any high voltage equipment and/or cables.
b. Do not open up or dismantle the ST-PTZ-KB's case. There are no serviceable parts inside the unit.
c. Do not install ST-PTZ-KB in an environment where the temperature is below 14ºF or above 131° F.
d. Do not install the ST-PTZ-KB in a damp environment.
e. Only use a dry cloth to clean the unit. If there is dirt that is difficult to remove wipe gently with a mild detergent. Never use strong or abrasive detergents.
f. A minimum 12VDC 2A power supply must be used. AC power cannot be applied. Using an AC or other incorrect power supply will damage the unit.
g. Only qualified installers are allowed to install and test the ST-PTZ-KB.
h. As the ST-PTZ-KB is a sensitive device any shock or collision to the unit or shaking of the unit will cause damage and void the warranty.
i. The unit's LCD display is fragile. Do not crush or expose under strong sunlight for extended time.
j. As the unit's joystick/operation knob is fragile, the ST-PTZ-KB must be packed in its original packing material when shipping to another location or returning it for repair.

4. WIRING CONNECTIONS



①	PTZ-CON	Control output (Ta/Tb)	Connect to PTZ camera's RS485+ port (Ta), RS485- port (Tb)
②	PTZ-AUX	Slave keyboard controller input (Ra, Rb)	Connect to slave key port: Ra to Ta on slave, Rb to Tb on slave.
③	Ground	Grounding	Communications cable ground
④	T/R	PTZ indicator	Display output status: Flicker and Green
⑤	PW	Power indicator	Always on, Red
⑥	DC-12V	DC power input	DC power input



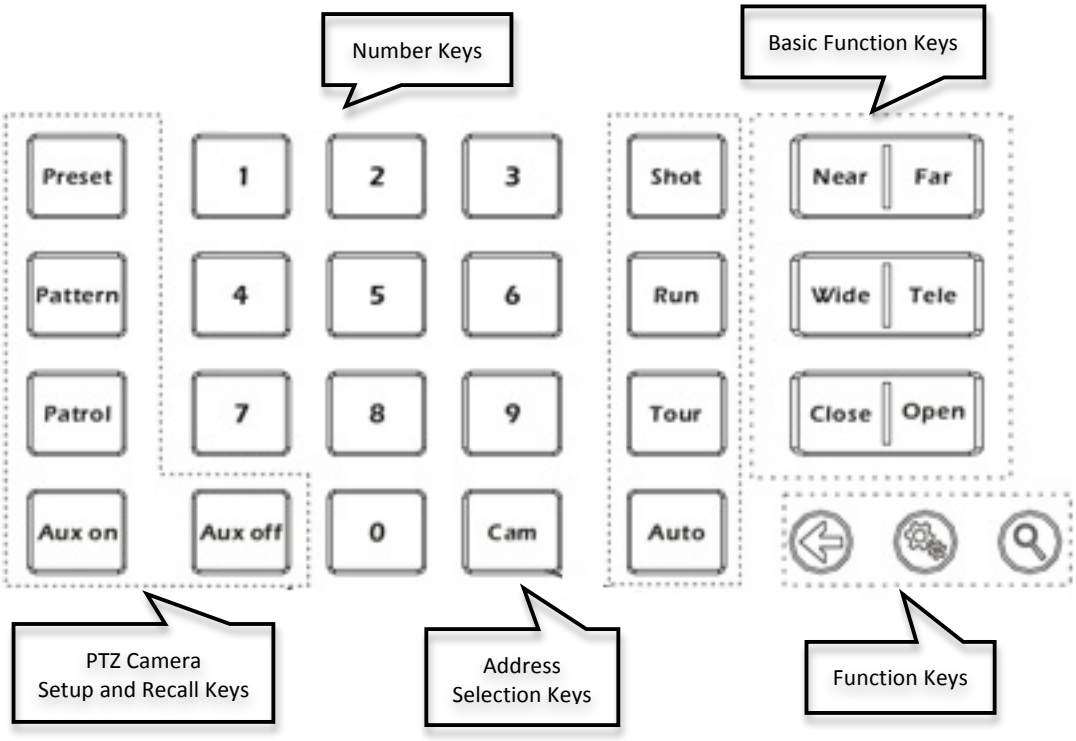
a. A control cable (e.g. unshielded twisted pair – UTP) is connected between the ST-PTZ-KB's RS485+ (Ta) and RS485- (Tb) connectors (pin positions 1 and 2) to the PTZ camera's RS485 port. Be sure the polarities of the keyboard and camera's RS485 connections are consistent. If multiple PTZ cameras are to be controlled use a control cable to daisy chain one PTZ camera to the other. Again, ensure the RS485 control cable polarities interconnecting the cameras are consistent.

b. If a secondary device (e.g., DVR) is to be controlled using the ST-PTZ-KB use a control cable to connect the device's RS485+ port (Ra) to the keyboard's PTZ-AUX RS485+ port (Ta – pin position 3). Repeat the cable connection between the devices RS485- port (Rb) to the keyboard's PTZ-AUX RS485- port (Tb – pin position 4).

c. Connect the 12VDC 2A power supply to the ST-PTZ-KB's power connector.

5. KEYBOARD OPERATION

5.1 Keyboard Controller Function Keys



Function Keys

	Back to previous menu and escape.
	Press for 3 seconds to set up key parameters and enter.
	Display the protocol and baud rate of the current address.

PTZ Setup and Recall Keys

Preset	Preset the original position of the PTZ camera. This key should be used together with a number key.
Pattern	Start/Esc to pattern record. Press for 3 seconds to record pattern then press for 3 seconds again to end record pattern. This key should be used together with the control knob or function key.
Patrol	Start/Esc to patrol record. Press to enter patrol set and press again to exit patrol set. This key should be used together with the control knob or function key.
Aux On	Turn auxiliary function on. This key should be used together with a number key. Note: the auxiliary function will vary by camera vendor and model.
Aux Off	Turn auxiliary function off. This key should be used together with a number key. Note: the auxiliary function will vary by camera vendor and model.
Shot	Recall the PTZ camera's preset position. This key should be used with a number key. Note: some special functions are

	achieved via recalling a preset (e.g., recall camera menu, recall integrated menu, pattern patrol, pattern scan, linear scan, etc.)
Run	Recall the stored PATTERN. This key should be used together with a number key.
Tour	RUN PTZ camera patrol according to settings in camera memory. This key should be used with a number key.
Auto	Automatically starts left – right scan.

Number Keys

0 – 9	Number keys 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
Cam	Address selection key. Select decoder address, PTZ address.

Basic Function Keys

Near	Manual focus on a close object.
Far	Manual focus on a distant object.
Tele	Zoom in lens on object (enlarge object).
Wide	Zoom out lens on object (widen the field of view).
Open	Manually increase the lens aperture to lighten the image.
Close	Manually decrease the lens aperture to darken the image.

All key operations are displayed on the LCD screen. The LCD will switch to low power mode if the controller does not receive any input for more than 30 seconds. The screen will also return to its initial state.

5.2 Joystick/Operation Knob Control

When Controlling the PTZ Camera

Operating	Output Control	Operating	Output Control	Operating	Output Control	Operating	Output Control
	Upward		Downward		Left		Right

When Setting Up the Keyboard Controller

Operating	Output Control	Operating	Output Control	Operating	Output Control	Operating	Output Control
	Menu turned up		Menu turned down		Parameter of the left		Parameter of the right

When Controlling PTZ Camera Menu

Operating	Output Control	Operating	Output Control
	Upward		Downward

5.3 Keyboard Operations – Single and Combined Keys

When a single key is pressed the PTZ camera will respond with the corresponding action. Single key operations include: NEAR, FAR, TELE, WIDE, OPEN, CLOSE, AUTO and Joystick.

Combined key operators involve 2 or more keys or a key and knob to have the PTZ camera respond with the corresponding action. Combined key operations include: PRESET, PATTERN, PATROL, SHOT, RUN, TOUR, CAM, AUX ON, AUX OFF.

5.4 Keyboard Operations – PTZ Mode and Choosing PTZ Address

To enter PTZ mode – If the LCD screen displays ***PTZ-XXX*** it indicates the keyboard is working in PTZ mode. If not, press to return to PTZ mode.

To choose a PTZ address

- Enter the PTZ mode and input the PTZ address number to control then press the CAM key. For example, for address 28 press 2 8 and the LCD will display ***PTZ-001 28***
- Then press CAM key and the LCD will display ***PTZ-028***.

5.5 Keyboard Operations – Set and Recall Pattern Scan

To setup a pattern scan

- Choose the address for the pattern scan.
- Then press for 3 seconds PATTERN key. The LCD will display ***PATTERN RECORD***.
- Use the joystick and control knob to position the camera, zoom, adjust the lens, etc.
- After setup is complete press the PATTERN key to end setup. The LCD will display ***PATTERN STOP***.

To recall a pattern scan

- Press the RUN key.
- The LCD will display ***RN PATTERN NO:.*** Note: In PELCOD there is only one pattern.
- The PTZ camera will operate per the first pattern. The LCD will display ***PTZ-XXX PATTERN***.
- Any single key operation will stop the pattern scan and return the controller to normal status.

5.6 Keyboard Operations – Set and Recall Tour

To setup a tour

- Choose the PTZ camera's address then press the appropriate number key(s) and the PATROL key.

- To set up the first tour press 1 then PATROL. The LCD will display ***NO:1 PRESET:001*** indicating setting the first preset point of No. 1 Tour.
- Move the joystick/operation knob to choose the preset point to be added to the tour.
- Move the joystick/operation knob downwards and the LCD will display ***NO:1 PRESET + 001*** indicating the first preset added to the first tour.
- The next setting is for dwell time. Move the joystick/operation knob left or right to change the dwell time for the present preset point. The LCD will display ***P:001 TIME: 003***. Move the joystick/operation knob downwards and the LCD will display ***P:001 TIME: +003*** indicating the time of the first preset point is 3 seconds.
- To set the speed setting (camera move time from one preset point to another) move the joystick/operation knob right and the LCD will display ***P:001 SPEED:01***. Now move the joystick/operation knob left or right to change the speed from one preset point to another.
- Move the joystick/operation knob down and the LCD will display ***NO:1 PRESET:002***. Repeat the above steps until the tour setup is completed.
- When setup is completed press the PATROL key and the LCD will display ***SAVE PATROL SET?***. Press to save settings in memory or press to escape without saving and return to the previous menu.

To recall a tour

- Press the appropriate tour number followed by the TOUR key. For example, for the first tour press 1 then TOUR and the LCD will display ***PTZ-001 PATROL***.
- Any single key operation will exit tour and place the controller into normal status.

Note the following when setting up and recalling a tour

- Left and right movement of the joystick/operation knob selects the value for a function.
- Downward movement of the joystick/operation knob selects “enter” and moves to the next function.
- In the setup process exits setup.

5.7 Keyboard Operations – Set and Recall Preset Points

To set preset points

- Choose the PTZ camera’s address.
- Using the joystick/operation knob move the camera to the desired preset point.
- Zoom the lens (if required) to the specific position.
- Press the preset point number to set followed by the PRESET key. For example, for preset position number 6 press 6 and PRESET. The LCD will display ***PRESET 6***.
- Repeat the above steps to create additional presets.

To recall a preset

- Press the appropriate number key for the desired preset point then press the SHOT key. For example, to recall preset point number 6 press the 6 key followed by the SHOT key and the LCD will display ***SHOT: 6***.

5.8 Keyboard Operations – Turn On/Off Auxiliary

To turn auxiliary on

- Choose the address of the PTZ camera or other device to be turned on.
- Press the appropriate number key(s) for the device followed by the AUX ON key. For example, to turn on device number 1, press the 1 key then the AUX ON key.

To turn auxiliary off

- Press the appropriate number key(s) for the appropriate device followed by the AUX OFF key. For example, to turn off device number 1, press the 1 key then the AUX OFF key.

6. SETTING KEYBOARD PARAMETERS

6.1 Setting Controller Protocol and Baud Rate

- In normal mode press for 3 seconds. The LCD will display ***PASSWORD***.
- Input the password. The default password is 8888. Then press and the LCD will display ***:>PTZ SETUP***.
- Press and the LCD will display ***:>ADDRESS 001***.
- Using the number key(s) enter the appropriate numbers for the desired device then press and the LCD will display ***PROTOCOL: PELCOD***.
- To change the protocol from Pelco D to Pelco P move the joystick/operation knob leftwards and the LCD will display ***PROTOCOL: PELCOP***.
- Press and the keyboard buzzer will sound. The LCD will display ***SETUP SUCCESS***.
- Move the joystick/operation knob downwards and the LCD will display ***BAUD RATE: 2400***.
- To change the baud rate (e.g., to 9600) move the joystick/operation knob rightwards to select the desired baud rate. The LCD will display ***BAUD RATE: 9600***.
- Press and the keyboard buzzer will sound. The LCD will display ***SETUP SUCCESS***.
- After setup is completed press 3 times to return to normal mode.

Note: to set the same protocol and baud rate for a PTZ camera, enter this screen ADDRESS: 0-254. Then set protocol and baud rate.

6.2 Keyboard Controller System Parameter Setup

System parameters include password, restoration of default settings, key tone On/Off, key ID setup, keylock, etc.

To restore default settings

- In normal mode press for 3 seconds. The LCD will display ***PASSWORD -----***.
- Input the password (default is 8888) and press. The LCD will then display ***>PTZ SETUP***.
- Move the joystick/operation knob downwards. The LCD will display ***>SYSTEM SETUP***.
- Press and the LCD will display ***>SET PW***.
- Move the joystick/operation knob downwards and the LCD will display ***>DEFAULT***.
- Press and the LCD will display ***SURE?***.
- Press again and the buzzer will sound with the LCD displaying ***SETUP SUCCESS*** for 1 second.

To abort the set default setting process press 2 times to return to normal mode.

To set keyboard controller lock On/Off with Password

- In normal mode press for 3 seconds. The LCD will display ***PASSWORD -----***.
- Input the password (default is 8888), press and the LCD will display ***>PTZ SETUP***.
- Move the joystick/operation knob downwards for the LCD to display ***>SYSTEM SETUP***.
- Press and the LCD will display ***>SET PW***.
- Move the joystick/operation knob upwards and the LCD will display ***>LOCK SET***.
- Press and the LCD will display ***LOCK OFF***. This indicates status of key lock.
- Move the joystick/operation knob upwards and the LCD will display ***>LOCK ON***.
- Press and the LCD will display ***LOCK PW: ----***.
- Input a 4-digit password, press and the LCD will display ***>LOCK SET***.
- Press 2 times, exit Setup and return to normal mode.

To access a locked keyboard controller with Password

- In normal mode press two times. The LCD will display ***LOCKED PW: -----***.
- Input the 4-digit password, press and the LCD will display ***LOCKED*** indicating the keyboard is locked.
- Press any key and the LCD will display ***OPEN LOCK: -----***.
- Input password, press and the keyboard controller will be unlocked.

6.3 Keyboard Controller Parameter Setup Framework

>PTZ Setup	>Address: XXX	Protocol	PelcoD, PelcoP, Rule, etc.
		Baud Rate	1200, 2400, 4800, 9600, 19200
	>Cam: 0-254	Protocol	PelcoD, PelcoP, Rule, etc.
		Baud Rate	1200, 2400, 4800, 9600, 19200
>SYSTEM Setup	>Set PW	Old PW:	
		New PW:	
		Again PW:	
	>Default	Sure?	Confirm, Abort/Escape
	>Sound Set	Sound On	Joystick to select choice
		Sound Off	Joystick to select choice
	>ID Set	Keyboard ID	Number 0 – 15
	>Lock Set	Lock Off	Joystick to select choice
		Lock On	, enter a password

7. TROUBLESHOOTING TIPS

a. *The ST-PTZ-KB is not controlling the camera (or other device) at all* – (i) be sure the R485 connections between the ST-PTZ-KB and the camera are using the same polarities; (ii) be sure correct connections are made at the ST-PTZ-KB's connection block; (iii) check to see if the correct baud rate has been set with the camera; (iv) check to see if the correct protocol has been with the camera. Note: if the T/R LED flickers the keyboard controller is free of problems. If the T/R LED does not flicker when communicating the RS485 port may be defective.

b. *The ST-PTZ-KB is communicating with the camera, but certain functions do not work* – PTZ controllers are designed to perform a wide variety of PTZ camera control functions. However, the utility of any PTZ controller is highly dependant upon the particular PTZ camera to be controlled as each camera has not only its own functions but specific methods of how those native functions are accessed and managed. Further, a particular PTZ controller's terminology may differ from that used by a particular PTZ camera. Therefore, it will be necessary for the installer and/or user to consult BOTH the PTZ controller and PTZ camera's user manuals to ensure proper set-up, configuration and application.

c. *Several PTZ cameras respond simultaneously from a single keyboard controller operation* – check to see if the cameras are all using the same addresses. If so, assign a unique address to each device.

d. *Forgot key lock password* – In any status press until the system setting menu appears then reset the password.

e. Additional troubleshooting assistance can be found on-line at www.securitytronix.com in addition to support from Securitytronix sales engineers at 1-610-429-1511.